

ABSTRACT OF THE DISCLOSURE

An ultrasonic transmitting and receiving apparatus capable of obtaining high quality ultrasonic images with reduced effect of side lobes. The apparatus includes: an
5 ultrasonic transducer array including ultrasonic transducers; a drive signal generating unit for generating drive signals for driving the ultrasonic transducers; a transmission control unit for controlling the drive signal generating unit such that ultrasonic waves transmitted from
10 the ultrasonic transducers form at least one ultrasonic beam; a reception control unit for performing reception focusing processing on detection signals obtained based on the ultrasonic echoes to form a reception focal point thereby obtaining plural pieces of measurement data; a storage unit
15 for storing plural different acoustic pressure intensity profiles; and an essential data calculating unit for calculating image data based on the plural pieces of measurement data and the plural different acoustic pressure intensity profiles.